

9<sup>th</sup> July 2012

Federal Communications Commission  
Washington DC 20554  
USA

Reference: Petition for Rule Making 11664

Service Rules for Fixed Service in the 41.0-42.5GHz Band

Dear Sirs,

Bluwan UK Limited, a manufacturer of carrier grade multi-gigabit wireless backhaul solutions, seeks to comment on the Petition for Rule Making 11664 requested by the Fixed Wireless Communications Commission (FWCC).

With the rapid build out of LTE occurring around the world it has become very clear that the deployment of small cells within an urban environment will be one way to deliver bandwidth to the user. What has become clear is that delivery of backhaul bandwidth to small cells will be critical to the quality of experience the user will receive.

Bluwan believes that there will have to be multiple options available to operators to achieve their goals. Innovative millimetre wave solutions will be a part of the operator backhaul options.

The 42 GHz spectrum band, covering the 40.5 GHz to 43.5 GHz frequency range worldwide, is still in its infancy has not yet been regulated and licensed in many countries, despite normalisation and harmonisation of this band by both ITU Worldwide and CEPT in Europe. This is due to several reasons:

First there has been no equipment until recently to leverage the above spectrum.

Secondly, most regulators spectrum management tools are not configured to manage these frequencies.

Thirdly, equipment utilising this spectrum requires line of sight as well as having very limited range due to the propagation properties limiting the applications for which it can be used. Hence, this spectrum is not so much an access technology but rather an enabling technology for the roll out of urban Long Term Evolution, small cell backhaul requirements and Heterogeneous Network (HetNet) topologies.

Finally, as this is a 3GHz wide slice of spectrum, which is potentially more spectrum than is currently regulated for point to point links in all bands 38 GHz and below, management of this spectrum from all aspects could be a task greater than all point to point links to date.

Bluwan believes that 42GHz and its limited range and potentially high bandwidth (and re-use factor) is perfectly positioned to meet the challenges of the small cell deployment. Bluwan considers that the FCC original plans for area licensing would be of great benefit to operators in speeding

deployment of high capacity mobile broadband within urban areas. Bluwan would also like the FCC to consider management of this spectrum in *block allocation* and not in specific channel widths, as is being suggested by the FWCC. It would also be of benefit not limiting deployment to point to point links but also allowing point to multi-point technology, limiting urban skyline pollution.

Several regulators have already licensed this spectrum in innovative ways.

1. Ofcom auctioned this spectrum in 2007. They decided to create a 15 year nationwide license for 6 blocks of 500MHz (2\*250Mhz pieces). The license is technology agnostic with no limitations on usage, no channel size requirements, no FDD or TDD stipulation. Ofcom took a technology and service neutral approach to spectrum allocation in this band.
2. In March 2012 URCA in the Bahamas released the 42GHz spectrum for use. Licenses will be geographically based either nationwide or island by island. This will be licensed on a first come first served, the license will be priced per MHz with a single operator being able to license up to a 1GHz wide single contiguous piece of spectrum. The allocation was also planned on a technology and service neutral basis.

Operators and Regulators are licensing this spectrum in such a way as to maximise the potential use despite its limited application as well as limiting their exposure to having to rewrite the spectrum management tools as well as limiting their risk to interference management.

In the European Union alone, and based on our modelling of the cost savings achievable through the adoption of PMP 42 GHz backhaul for MNO base stations and on the assumption that these cost savings will be passed through to consumers in reduced prices for mobile broadband services, economic analysis shows that consumer surplus across the EU could amount to as much as Euro 1.5Bn over the next 10 years. Similar benefits could be expected for the United States of America.

Bluwan would appreciate the opportunity to discuss this topic in greater detail.

Respectfully Submitted



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## References

### OFCOM (UK)

<http://stakeholders.ofcom.org.uk/consultations/10-40GHz/?a=0>

<http://stakeholders.ofcom.org.uk/consultations/10-40notice/?a=0>

### URCA (Bahamas)

<http://www.urcabahamas.bs/publications.php?cmd=view&id=114>

<http://www.urcabahamas.bs/news.php?cmd=view&id=154&pre=y>